SANYO

SERVICE MANUAL

Stereo Headphones Cassette Player

ES-P7 (GENERAL)

PRODUCT CODE No.
142 525 04 (Black)
142 525 05 (Gray)
142 525 06 (Green)
142 525 07 (Blue)

Specifications

Power Source
- DC 1.2V
- Ni-cd battery KF-A1200

Output Power ..... 3.5mW x 2 (Max.)
EXT. Power 1.5V
Current Consumption (at Vol. Min.)
- Playback mode 220mA
- Fast Forward/Rewind mode 380mA

Tape Speed ..... 1-7/8ips. ±3%
Fast Forward/Rewind mode ..... 300sec. (with C-60)
Torque
- Playback ..... 18 ~ 36g-cm
- Fast Forward/Rewind ..... More than 55g-cm

Wow & Flutter ..... 0.6% (WRMS)
Frequency Response (P/B Dolby OFF) ..... 63Hz ~ 10,000Hz
BRSS Switch
- MID ..... +8±4dB
- MAX ..... +16±6dB

Signal to Noise Ratio (with Fe_2O_3) ..... More than 43dB
Crosstalk (with Fe_2O_3)
- Track to Track ..... More than 50dB

Channel Separation (with Fe_2O_3) ..... More than 25dB
Hum & Noise (at Vol. Min.) ..... −71dBs
Terminal Impedance
- Headphones ..... 8 ~ 100Ω

Dimensions (Max.) ..... 111.3(W) x 96.7(H) x 18(D)mm
Weight (with batteries) 190g

Specifications and design are subject to change without notice.

Dolby is a registed trademark of Dolby Laboratories Licensing Corporation.

REFERENCE No. WM-570603

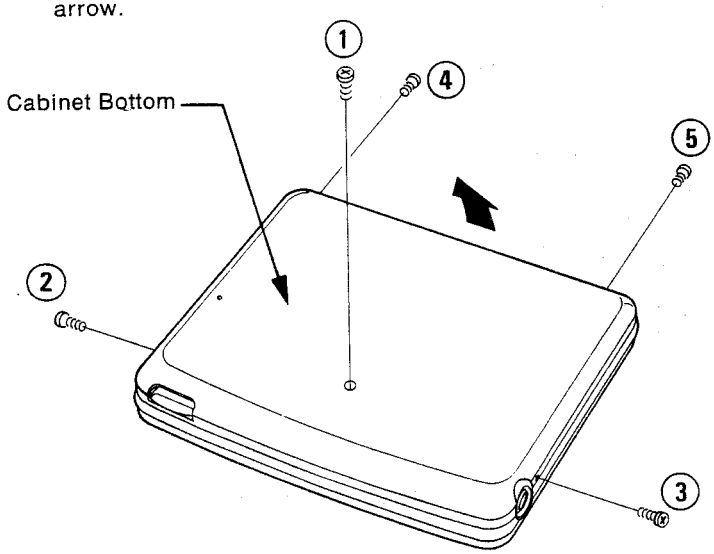
DISASSEMBLY INSTRUCTIONS

GENERAL REMARKS

- Before disassembling the unit, spread a soft rubber mat or a cloth on the workbench to avoid scratches and grease stains.
- Do not use a material which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws, the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.
- Reassemble in reverse order.

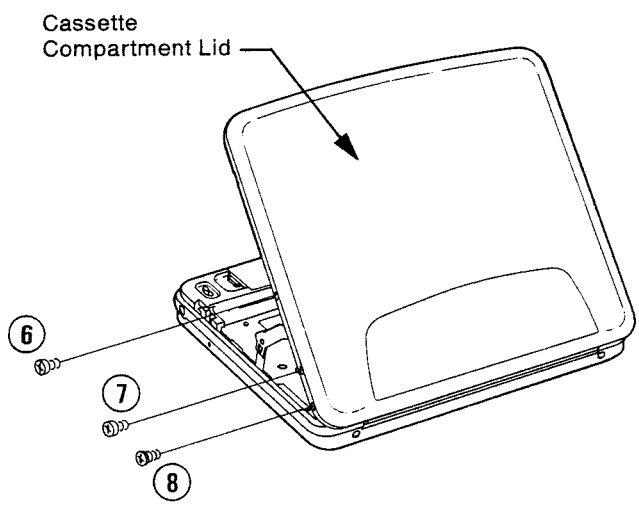
CABINET BOTTOM REMOVAL

1. Remove the five screws (1~5) fastening the Cabinet Bottom.
2. Detach the Cabinet Bottom by lifting in the direction of the arrow.



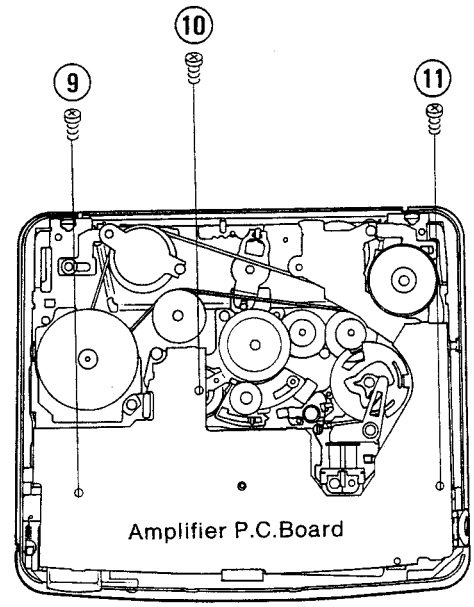
CASSETTE COMPARTMENT LID REMOVAL

1. Press the button to open the Cassette Compartment lid.
2. Remove the three screws (6~8) fastening the Cassette Compartment lid and detach the Cassette Compartment lid.



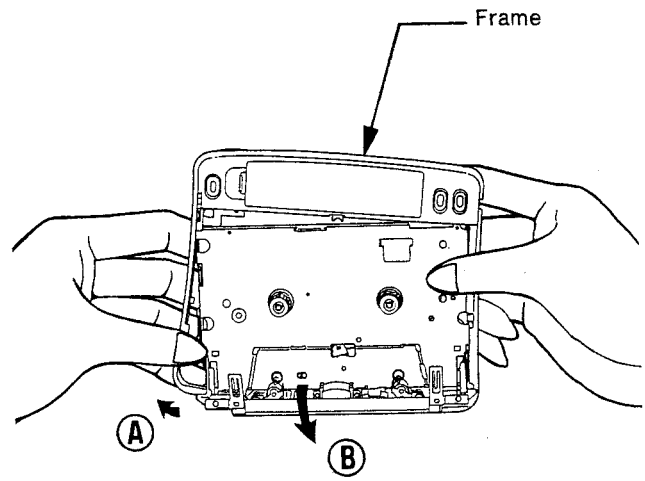
P.C.BOARD REMOVAL

1. Remove the Cabinet Bottom and unsolder the follows leads from the P.C.Board.
   - Motor leads
   - Plunger leads (Yellow, Blue)
   - Play Head FPC Assy leads
   - Mode Switch FPC Assy leads
2. Remove the three screws (9~11) and detach the P.C.Board by lifting with caution not to damage the lead wires.



CASSETTE MECHANISM REMOVAL

1. Remove the P.C.Board and Cassette Compartment lid. Then pull the frame in the "A" marked direction of the arrow and lift in the "B" marked direction of the arrow. Remove the frame from the mechanism.



ADJUSTMENT PROCEDURES

GENERAL REMARKS

- Before adjusting the mechanism of this unit, wipe the tape contacting surfaces clean as well as contacting surfaces of the driving parts with a cotton swab or a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.
- Handle the belt carefully the because grease easily attaches to it. Then check the used rubber parts. If the rubber has deteriorated or is scratched, replace the parts with new one.

EQUIPMENT REQUIRED

- Frequency Counter
- Dummy Load (16Ω)
- Test Tapes
  - ‡ 3kHz test tape (Example: TEAC MTT-111)
- Alignment Tool

- This model features the Auto Reverse Mechanism. Then the tape transport direction is distinguished as follows:
  - ‡ **FORWARD DIRECTION:**
    The Tape is wound counter-clockwise.
  - ‡ **REVERSE DIRECTION:**
    The Tape is wound clockwise.
- When performing the adjustment while playing back the test tape, set the tape transport to the **FORWARD DIRECTION.**

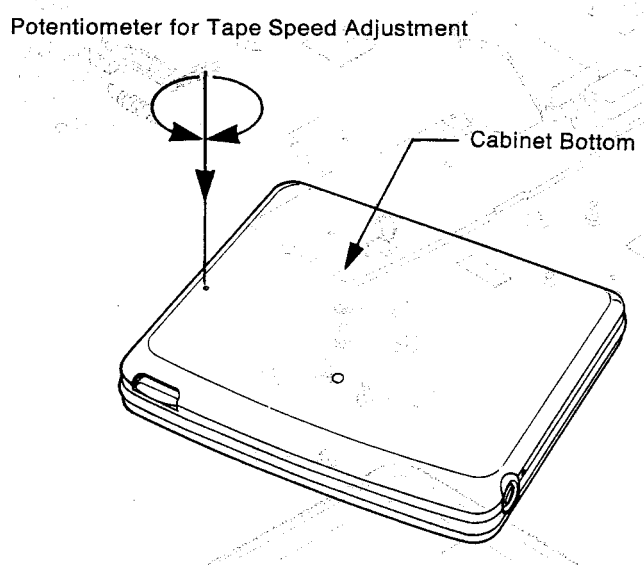
NOTE:

Before the adjustments, set the control and switch as follows:

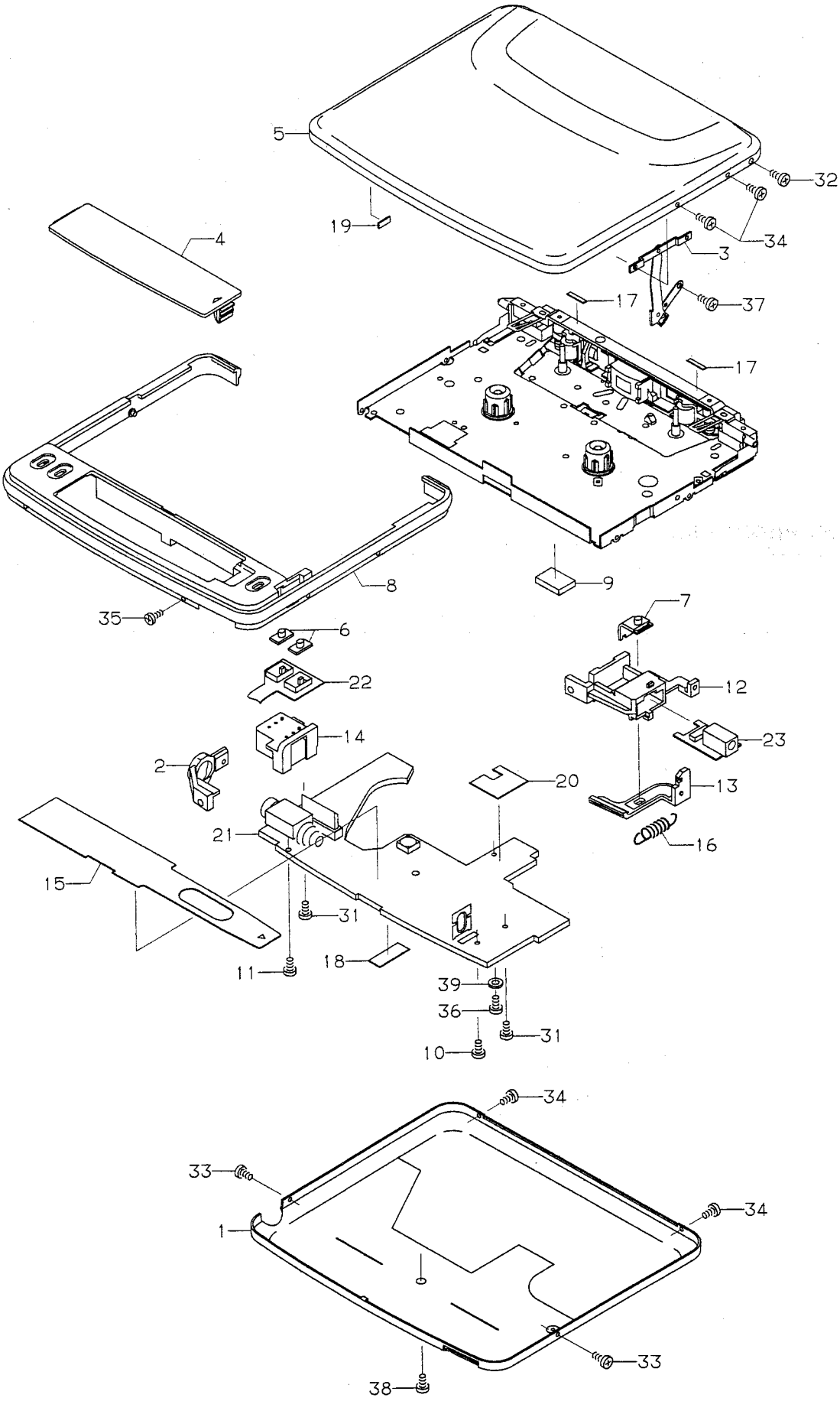
- Dolby NR Switch ..... OFF
- BRSS Switch ..... OFF
- Volume Control ..... As desired
- Supply the regulated DC 1.5V power to the Ext. Power Jack for the adjustment.

ADJUSTMENT PROCEDURE

Adjustment Item	Connection	Dummy Load	Measuring Instrument	Test tape	Adjustment	Measuring Value
Tape Speed	Headphones	16Ω	Frequency Counter	TEAC MTT-111	P401	3,000Hz ±3%



CABINET EXPLODED VIEW



CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 209 6377	Outer Carton (Black)	1
	620 209 6384	Outer Carton (Gray)	1
	620 209 6391	Outer Carton (Green)	1
	620 209 6407	Outer Carton (Blue)	1
	620 209 6414	Inner Carton	1
	620 198 3050	Poly Cover 110X160	1
	620 209 5660	Poly Cover	1
	620 208 6026	Pad,Styrofoam	1
	620 208 6033	Pad,Top	1
	620 209 7381	Label,Caution	1
	620 152 7506	Serial No. Sheet	3
	620 152 9722	Label Color (Black)	1
	620 152 9715	Label Color GR (Gray)	1
	620 152 9760	Label Color GN (Green)	1
	620 152 9753	Label Color BL (Blue)	1
ACCESSORIES			
	620 021 4834	Plug Adaptor Assy	1
	620 209 8968	Assy,Remocon,ES-P7	1
	620 209 8975	Headphone,16	1
	620 208 2547	Battery,Recharge,KF-A1200	1
⚠	620 208 2349	AC Charger D1-30CH1200	1
	620 210 1583	Instruction Manual	1
CABINET			
	620 208 6729	Adhesive Sheet	1
	620 209 7374	Adhesive Sheet	1
	620 208 1519	Terminal	4
	620 115 9165	Adhesive Sheet	1
	620 116 2851	Adhesive Sheet	1
1	620 209 6285	Assy,Cabinet,Bottom (Black)	1
1	620 209 6308	Assy,Cabinet,Bottom (Gray)	1
1	620 209 6353	Assy,Cabinet,Bottom (Green)	1
1	620 209 6360	Assy,Cabinet,Bottom (Blue)	1
2	620 207 0674	Assy,Holder,Jack	1
3	620 207 0629	Assy,Lever,Lid	1
4	620 205 8696	Lid,Battery	1
5	620 209 6209	Lid,Cassette (Black)	1
5	620 209 6216	Lid,Cassette (Gray)	1
5	620 209 6223	Lid,Cassette (Green)	1
5	620 209 6230	Lid,Cassette (Blue)	1
6	620 205 8757	Knob,Slide,Switch	2
7	620 205 8764	Knob,Slide,Mode	1
8	620 205 7583	Frame	1
9	620 210 9138	Cushion	1
10	620 122 9134	Screw +PMS M1.4X2.5	1
11	620 123 1205	Screw	1
12	620 207 0681	Assy,Holder,Anode	1
13	620 205 8740	Button,Eject (Black/Gray)	1
13	620 208 6941	Button,Eject (Green)	1
13	620 208 6965	Button,Eject (Blue)	1
14	620 205 8726	Holder,Cathode	1
15	620 206 6455	Sheet,Battery	1
16	620 206 7438	Spring,Tens,Eject	1
17	620 210 0470	Sheet	2
18	620 124 6087	Cushion	1
19	620 210 7035	Sheet	1
20	620 210 1200	Sheet	1
21	620 206 9173	Assy,PCB-W,Amplifier	1
22	620 208 1526	Assy,FPC,Jack	1
23	620 208 1533	Assy,FPC,SW	1
31	412 025 4701	SCR PAN PCS 1.4X3.5	2
32	412 036 9603	SPECIAL SCREW (Black/Gray/Green)	1
32	412 037 8902	SPECIAL SCREW (Blue)	1
33	412 036 9702	SPECIAL SCREW (Black/Gray/Green)	2
33	412 037 9008	SPECIAL SCREW (Blue)	2
34	412 037 2207	SPECIAL SCREW (Black/Gray/Green)	4
34	412 037 9107	SPECIAL SCREW (Blue)	4
35	412 037 2207	SPECIAL SCREW	1
36	412 037 2306	SPECIAL SCREW	1
37	412 037 2405	SPECIAL SCREW	1
38	411 099 7908	SCR PAN PCS 1.4X2.5 (Black/Gray/Green)	1
38	411 017 7904	SCR PAN PCS 1.4X2.5 (Blue)	1
39	411 086 1407	WASHER SPR 1.7	1

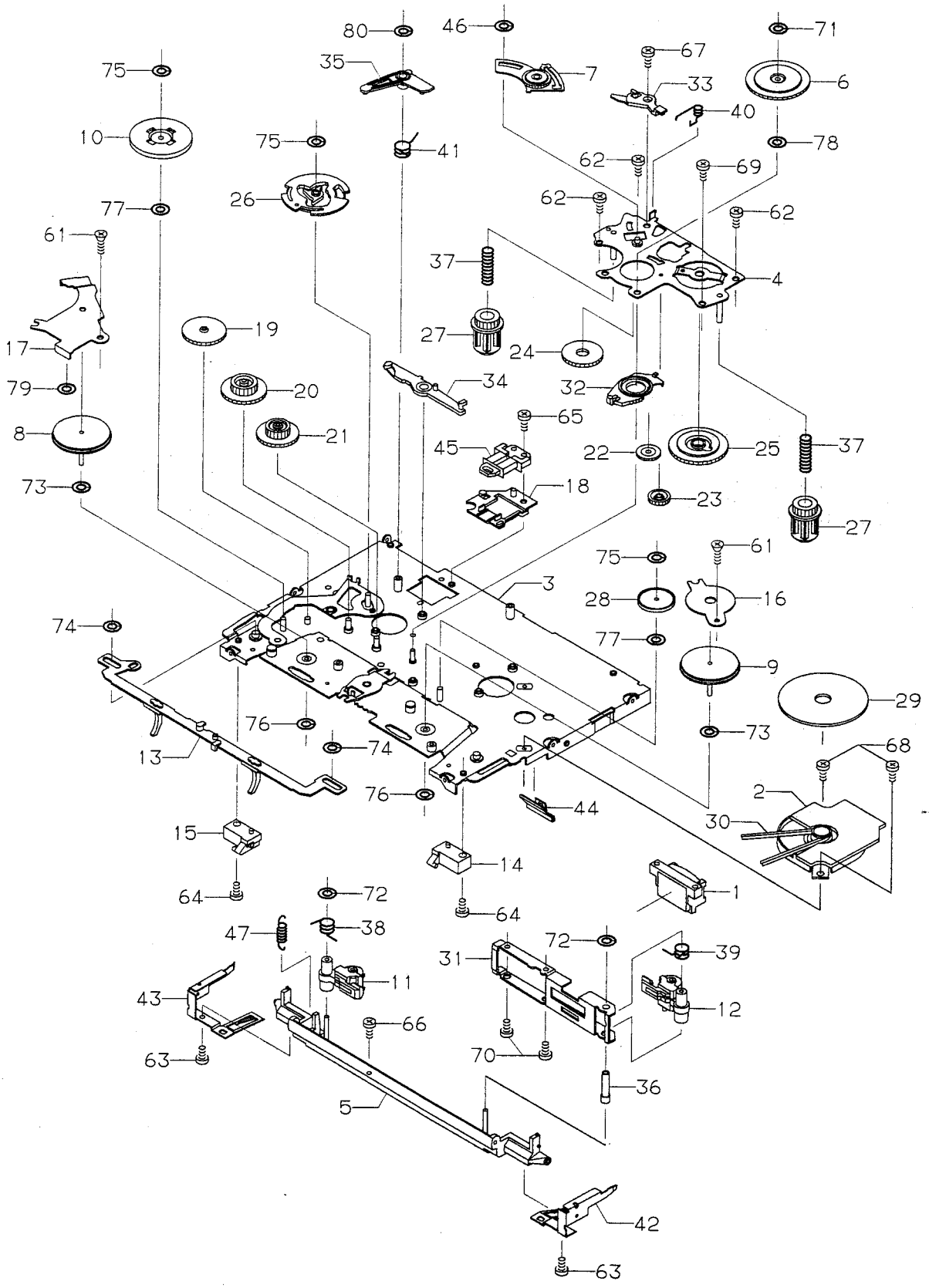
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

MECHANISM EXPLODED VIEW



MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	620 152 7506	Serial No. Sheet	2
1	620 206 8312	Assy,Head,Play,4T	1
2	620 207 0452	Assy,Motor,1.5V,0.3W	1
3	620 205 1901	Assy,Chassis	1
4	620 205 1925	Assy,Chassis,Sub	1
5	620 205 1871	Assy,Holder,Head	1
6	620 205 1864	Assy,Gear,Friction	1
7	620 206 7766	Assy,Gear,Fast,FWD	1
8	620 205 1956	Assy,Flywheel,FWD	1
9	620 205 1963	Assy,Flywheel,RVS	1
10	620 206 8824	Assy,Pulley,Gear	1
11	620 205 1888	Assy,Arm,Pinch,FWD	1
12	620 205 1895	Assy,Arm,Pinch,RVS	1
13	620 205 1932	Assy,Slide,Reverse	1
14	620 205 1147	Hinge,Right	1
15	620 205 1154	Hinge,Left	1
16	620 205 1109	Support,Flywheel	1
17	620 205 1116	Support,Flywheel	1
18	620 205 1178	Holder,Plunger	1
19	620 205 0867	Gear,Idler,Pulley	1
20	620 205 0874	Gear,Reduction,Assist	1
21	620 205 0881	Gear,Idler,Friction	1
22	620 205 0928	Gear,Idler,Take,UP	1
23	620 205 0935	Gear,Link,RVS	1
24	620 205 0942	Gear,Idler,FWD	1
25	620 205 0959	Gear,Idler,RVS	1
26	620 205 1031	Gear,Assist	1
27	620 206 7100	Reel	2
28	620 205 1079	Pulley,Idler	1
29	620 205 1215	Disc	1
30	620 205 1420	Belt,Square,Drive	1
31	620 205 0768	Arm,Head	1
32	620 205 0799	Arm,Take,UP	1
33	620 205 0812	Lever,Cancel	1
34	620 205 0829	Lever,Fast,FWD	1
35	620 205 0843	Lever,Trigger	1
36	620 205 1482	Roller,Arm,Pinch	1
37	620 205 1376	Spring,Comp,Reel	2
38	620 205 1314	Spring,Tors,Pinch,FWD	1
39	620 205 1321	Spring,Tors,Pinch,RVS	1
40	620 205 1338	Spring,Tors,Cancel	1
41	620 205 1345	Spring,Tors,Trigger	1
42	620 205 1284	Spring,Plate,Lid,Right	1
43	620 205 1291	Spring,Plate,Lid,Left	1
44	620 205 1307	Spring,Plate,Cassette	1
45	620 207 0469	Magnetic Coil,Plunger	1
46	620 125 1807	Washer,M1.25X3.0X0.25	1
47	620 139 1572	Spring Cabinet Front	1
61	412 025 8808	SCR FLT PCS 1.4X1.4	2
62	412 025 7405	SCR PAN PCS 1.4X1.4	3
63	412 025 6903	SCR PAN PCS 1.4X2	2
64	412 025 6101	SCR PAN PCS 1.4X4	2
65	412 037 7806	SCR PAN PCS 1.4X2.5	1
66	412 036 9207	SPECIAL SCREW	1
67	412 036 9306	SPECIAL SCREW	1
68	412 037 8100	SCR PAN PCS 1.4X1.2	2
69	412 037 9602	SPECIAL SCREW	1
70	412 038 3906	SCR PAN PCS 1.4X3.3	2
71	412 020 3105	SPECIAL WASHER	1
72	412 020 4904	SPECIAL WASHER	2
73	412 023 4901	SPECIAL WASHER	2
74	412 026 3000	SPECIAL WASHER	2
75	412 037 1200	SPECIAL WASHER	3
76	412 037 1309	SPECIAL WASHER	2
77	412 037 1408	SPECIAL WASHER	2
78	412 037 1507	SPECIAL WASHER	1
79	412 038 0608	SPECIAL WASHER	1
80	412 038 4309	SPECIAL WASHER	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB-W,AMPLIFIER			
21	620 206 9173	Assy,PCB-W,Amplifier	1
	620 205 8818	Terminal,Cathode	1
	620 205 8702	Holder,Switch	1
	620 205 7743	Switch,Leaf (TAPE CR)	1
CF401	620 209 6728	Resonator,Xtal,75kHz	1
J301	620 207 7949	Jack,H/P,5P (HEADPHONE JACK)	1
S401	620 208 0918	Switch,Slide,1P-3T (F/R SW)	1
R440	401 162 1803	MT-FILM 4.7K JP 1/8W	1
	620 206 9180	Assy,PCB-W,Chip	1
P401	620 208 0864	Potentiometer,1KB	1
T401	620 209 9552	Trans,OSC,D/D	1
IC101	409 228 5307	IC TA7795FN (ER)	1
IC102	409 228 5208	IC TA7793FN (ER)	1
IC103	409 228 5406	IC TA8157FN (ER)	1
IC104	410 110 1406	IC M34210M2-126GP	1
IC105	409 227 0501	IC CXA1405AM-T3	1
IC106	409 205 5009	IC LB1673M-TP-T1	1
IC107	409 228 5505	IC TA8161F (ER)	1
D301	407 061 6802	DIODE MA704	1
D401	407 008 5400	DIODE MA151WK-TW	1
HS401	407 104 2709	SENSOR SHS230-60-TL	1
Q301	405 102 6200	TR DTC114-YU-T107	1
Q302	405 082 3404	TR 2SC4081-BR-T107	1
Q303	405 082 3404	TR 2SC4081-BR-T107	1
Q304	405 082 3404	TR 2SC4081-BR-T107	1
Q305	405 082 3404	TR 2SC4081-BR-T107	1
Q306	405 008 7707	TR 2SB815-B7-TA	1
Q401	405 021 2406	TR 2SD1048-X7-TA	1
Q402	406 008 8800	TR 2SA1576-FR-T107	1
Q403	406 008 8800	TR 2SA1576-FR-T107	1
Q404	405 008 7707	TR 2SB815-B7-TA	1
Q405	405 082 3404	TR 2SC4081-BR-T107	1
Q406	406 008 8800	TR 2SA1576-FR-T107	1
Q407	405 082 3404	TR 2SC4081-BR-T107	1
Q408	405 082 3404	TR 2SC4081-BR-T107	1
Q409	405 102 6200	TR DTC114-YU-T107	1
Q410	405 008 7707	TR 2SB815-B7-TA	1
Q411	405 082 3404	TR 2SC4081-BR-T107	1
Q412	405 082 3404	TR 2SC4081-BR-T107	1
Q413	405 082 3404	TR 2SC4081-BR-T107	1
Q414	405 082 3404	TR 2SC4081-BR-T107	1
C101	403 113 3805	CERAMIC 1000P K 50V	1
C102	403 113 3805	CERAMIC 1000P K 50V	1
C103	404 035 1405	TA-SOLID 22U M 4V	1
C104	403 213 4108	CERAMIC 0.015U K 16V	1
C105	403 155 1807	CERAMIC 0.01U K 25V	1
C106	403 068 0409	CERAMIC 0.1U Z 25V	1
C107	403 207 0307	CERAMIC 1U Z 16V	1
C108	403 155 2200	CERAMIC 3300P K 50V	1
C109	403 155 2002	CERAMIC 8200P K 25V	1
C110	403 144 7209	TA-SOLID 1U M 16V	1
C111	403 155 1807	CERAMIC 0.01U K 25V	1
C112	403 147 8302	TA-SOLID 0.47U M 35V	1
C113	403 207 0307	CERAMIC 1U Z 16V	1
C114	403 213 4009	CERAMIC 0.012U K 16V	1
C115	403 207 0307	CERAMIC 1U Z 16V	1
C116	403 144 7209	TA-SOLID 1U M 16V	1
C117	403 113 3805	CERAMIC 1000P K 50V	1
C201	403 113 3805	CERAMIC 1000P K 50V	1
C202	403 113 3805	CERAMIC 1000P K 50V	1
C203	404 035 1405	TA-SOLID 22U M 4V	1
C204	403 213 4108	CERAMIC 0.015U K 16V	1
C205	403 155 1807	CERAMIC 0.01U K 25V	1
C206	403 068 0409	CERAMIC 0.1U Z 25V	1
C207	403 207 0307	CERAMIC 1U Z 16V	1
C208	403 155 2200	CERAMIC 3300P K 50V	1
C209	403 155 2002	CERAMIC 8200P K 25V	1
C210	403 144 7209	TA-SOLID 1U M 16V	1
C211	403 155 1807	CERAMIC 0.01U K 25V	1
C212	403 147 8302	TA-SOLID 0.47U M 35V	1
C213	403 207 0307	CERAMIC 1U Z 16V	1
C214	403 213 4009	CERAMIC 0.012U K 16V	1
C215	403 207 0307	CERAMIC 1U Z 16V	1
C216	403 144 7209	TA-SOLID 1U M 16V	1
C217	403 113 3805	CERAMIC 1000P K 50V	1
C301	403 155 2002	CERAMIC 8200P K 25V	1
C302	403 144 0705	TA-SOLID 10U M 4V	1

Ref. No.	Part No.	Description	Q'ty
C303	404 035 1405	TA-SOLID 22U M 4V	1
C304	404 035 1405	TA-SOLID 22U M 4V	1
C305	403 089 6206	TA-SOLID 4.7U M 4V	1
C306	403 090 3201	TA-SOLID 1U M 10V	1
C307	403 144 7209	TA-SOLID 1U M 16V	1
C308	403 089 9009	TA-SOLID 2.2U M 6.3V	1
C309	403 207 0505	CERAMIC 0.47U Z 16V	1
C310	403 089 6206	TA-SOLID 4.7U M 4V	1
C311	403 152 2005	TA-SOLID 3.3U M 4V	1
C312	403 155 1807	CERAMIC 0.01U K 25V	1
C313	403 144 0705	TA-SOLID 10U M 4V	1
C314	404 035 1405	TA-SOLID 22U M 4V	1
C315	403 155 1807	CERAMIC 0.01U K 25V	1
C316	403 068 0409	CERAMIC 0.1U Z 25V	1
C317	403 068 0409	CERAMIC 0.1U Z 25V	1
C318	403 068 0409	CERAMIC 0.1U Z 25V	1
C319	403 155 1807	CERAMIC 0.01U K 25V	1
C320	403 147 8203	TA-SOLID 4.7U M 4V	1
C321	403 213 4207	CERAMIC 0.018U K 16V	1
C401	403 157 8309	CERAMIC 0.1U Z 16V	1
C402	403 207 0307	CERAMIC 1U Z 16V	1
C403	403 019 2209	CERAMIC 24P J 50V	1
C404	403 019 2209	CERAMIC 24P J 50V	1
C405	403 207 0505	CERAMIC 0.47U Z 16V	1
C406	403 167 2403	TA-SOLID 22U M 4V	1
C407	403 207 0505	CERAMIC 0.47U Z 16V	1
C408	403 068 0409	CERAMIC 0.1U Z 25V	1
C409	403 155 1807	CERAMIC 0.01U K 25V	1
C410	403 130 3604	CERAMIC 0.047U K 25V	1
C411	403 130 3604	CERAMIC 0.047U K 25V	1
C412	403 130 3604	CERAMIC 0.047U K 25V	1
C413	403 092 6606	TA-SOLID 0.22U M 35V	1
C414	403 144 7100	TA-SOLID 2.2U M 6.3V	1
C415	404 035 1405	TA-SOLID 22U M 4V	1
C416	403 155 1807	CERAMIC 0.01U K 25V	1
C417	403 113 3805	CERAMIC 1000P K 50V	1
C418	403 113 3805	CERAMIC 1000P K 50V	1
C419	404 035 1405	TA-SOLID 22U M 4V	1
C420	403 157 8309	CERAMIC 0.1U Z 16V	1
C421	403 147 8203	TA-SOLID 4.7U M 4V	1
C422	403 157 8309	CERAMIC 0.1U Z 16V	1
C423	403 155 1807	CERAMIC 0.01U K 25V	1
C424	403 155 1807	CERAMIC 0.01U K 25V	1
C425	403 092 5005	TA-SOLID 0.1U M 35V	1
C426	403 167 2403	TA-SOLID 22U M 4V	1
C427	403 155 1807	CERAMIC 0.01U K 25V	1
C428	403 155 1807	CERAMIC 0.01U K 25V	1
R101	401 105 2706	MT-GLAZE 220 JA1/16W	1
R102	401 105 2102	MT-GLAZE 18K JA1/16W	1
R103	401 105 3505	MT-GLAZE 270K JA1/16W	1
R104	401 105 6605	MT-GLAZE 6.8K JA1/16W	1
R105	401 105 0603	MT-GLAZE 10K JA1/16W	1
R106	401 105 5301	MT-GLAZE 4.7K JA1/16W	1
R107	401 105 0603	MT-GLAZE 10K JA1/16W	1
R108	401 105 4700	MT-GLAZE 39K JA1/16W	1
R109	401 105 4205	MT-GLAZE 33K JA1/16W	1
R110	401 113 6901	MT-GLAZE 13K JA1/16W	1
R111	401 105 4809	MT-GLAZE 390K JA1/16W	1
R112	401 105 2805	MT-GLAZE 2.2K JA1/16W	1
R113	401 105 2904	MT-GLAZE 22K JA1/16W	1
R114	401 105 2409	MT-GLAZE 2K JA1/16W	1
R115	401 159 0604	MT-GLAZE 8.2 JA1/16W	1
R201	401 105 2706	MT-GLAZE 220 JA1/16W	1
R202	401 105 2102	MT-GLAZE 18K JA1/16W	1
R203	401 105 3505	MT-GLAZE 270K JA1/16W	1
R204	401 105 6605	MT-GLAZE 6.8K JA1/16W	1
R205	401 105 0603	MT-GLAZE 10K JA1/16W	1
R206	401 105 5301	MT-GLAZE 4.7K JA1/16W	1
R207	401 105 0603	MT-GLAZE 10K JA1/16W	1
R208	401 105 4700	MT-GLAZE 39K JA1/16W	1
R209	401 105 4205	MT-GLAZE 33K JA1/16W	1
R210	401 113 6901	MT-GLAZE 13K JA1/16W	1
R211	401 105 4809	MT-GLAZE 390K JA1/16W	1
R212	401 105 2805	MT-GLAZE 2.2K JA1/16W	1
R213	401 105 2904	MT-GLAZE 22K JA1/16W	1
R214	401 105 2409	MT-GLAZE 2K JA1/16W	1
R215	401 159 0604	MT-GLAZE 8.2 JA1/16W	1
R301	401 105 0603	MT-GLAZE 10K JA1/16W	1
R302	401 105 2102	MT-GLAZE 18K JA1/16W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description		Q'ty
R303	401 105 0603	MT-GLAZE	10K JA1/16W	1
R304	401 105 7503	MT-GLAZE	82K JA1/16W	1
R305	401 105 0702	MT-GLAZE	100K JA1/16W	1
R306	401 158 4108	MT-GLAZE	4.7 JA1/16W	1
R307	401 105 3000	MT-GLAZE	220K JA1/16W	1
R308	401 105 0405	MT-GLAZE	100 JA1/16W	1
R309	401 105 3000	MT-GLAZE	220K JA1/16W	1
R310	401 105 5301	MT-GLAZE	4.7K JA1/16W	1
R311	401 105 2607	MT-GLAZE	22 JA1/16W	1
R312	401 105 5301	MT-GLAZE	4.7K JA1/16W	1
R313	401 105 4700	MT-GLAZE	39K JA1/16W	1
R314	401 105 0504	MT-GLAZE	1K JA1/16W	1
R315	401 105 8104	MT-GLAZE	56K JA1/16W	1
R316	401 105 0603	MT-GLAZE	10K JA1/16W	1
R401	401 105 0603	MT-GLAZE	10K JA1/16W	1
R402	401 105 5301	MT-GLAZE	4.7K JA1/16W	1
R403	401 105 0702	MT-GLAZE	100K JA1/16W	1
R404	401 105 0702	MT-GLAZE	100K JA1/16W	1
R405	401 105 0702	MT-GLAZE	100K JA1/16W	1
R406	401 105 2607	MT-GLAZE	22 JA1/16W	1
R407	401 105 4205	MT-GLAZE	33K JA1/16W	1
R408	401 105 6001	MT-GLAZE	5.6K JA1/16W	1
R409	401 105 0702	MT-GLAZE	100K JA1/16W	1
R410	401 105 0702	MT-GLAZE	100K JA1/16W	1
R411	401 105 0702	MT-GLAZE	100K JA1/16W	1
R412	401 105 0702	MT-GLAZE	100K JA1/16W	1
R413	401 113 5201	MT-GLAZE	360 JA1/16W	1
R414	401 113 6406	MT-GLAZE	5.1K JA1/16W	1
R415	401 142 6507	MT-GLAZE	10M KA1/10W	1
R416	401 105 0702	MT-GLAZE	100K JA1/16W	1
R417	401 105 5806	MT-GLAZE	56 JA1/16W	1
R418	401 105 0702	MT-GLAZE	100K JA1/16W	1
R419	401 105 0702	MT-GLAZE	100K JA1/16W	1
R420	401 105 2904	MT-GLAZE	22K JA1/16W	1
R421	401 105 2904	MT-GLAZE	22K JA1/16W	1
R422	401 105 0504	MT-GLAZE	1K JA1/16W	1
R423	401 105 0702	MT-GLAZE	100K JA1/16W	1
R424	401 105 2904	MT-GLAZE	22K JA1/16W	1
R425	401 105 0603	MT-GLAZE	10K JA1/16W	1
R426	401 105 0603	MT-GLAZE	10K JA1/16W	1
R427	401 105 0603	MT-GLAZE	10K JA1/16W	1
R428	401 105 2904	MT-GLAZE	22K JA1/16W	1
R429	401 105 2904	MT-GLAZE	22K JA1/16W	1
R430	401 105 0603	MT-GLAZE	10K JA1/16W	1
R431	401 105 3307	MT-GLAZE	2.7K JA1/16W	1
R432	401 105 4304	MT-GLAZE	330K JA1/16W	1
R433	401 105 2607	MT-GLAZE	22 JA1/16W	1
R434	401 105 4106	MT-GLAZE	3.3K JA1/16W	1
R435	401 105 2904	MT-GLAZE	22K JA1/16W	1
R436	401 105 0405	MT-GLAZE	100 JA1/16W	1
R437	401 105 4502	MT-GLAZE	390 JA1/16W	1
R438	401 105 0504	MT-GLAZE	1K JA1/16W	1
R439	401 105 4502	MT-GLAZE	390 JA1/16W	1
R441	401 105 2003	MT-GLAZE	1.8K JA1/16W	1
R442	401 105 0603	MT-GLAZE	10K JA1/16W	1
R443	401 105 0603	MT-GLAZE	10K JA1/16W	1
R444	401 105 0603	MT-GLAZE	10K JA1/16W	1
R445	401 105 2607	MT-GLAZE	22 JA1/16W	1
R446	401 105 0702	MT-GLAZE	100K JA1/16W	1
R447	401 105 0603	MT-GLAZE	10K JA1/16W	1
R448	401 105 2904	MT-GLAZE	22K JA1/16W	1
R449	401 105 0702	MT-GLAZE	100K JA1/16W	1
R450	401 105 0603	MT-GLAZE	10K JA1/16W	1
R451	401 105 0603	MT-GLAZE	10K JA1/16W	1
R452	401 105 2904	MT-GLAZE	22K JA1/16W	1
R453	401 105 0603	MT-GLAZE	10K JA1/16W	1
R454	401 105 0603	MT-GLAZE	10K JA1/16W	1
R455	401 105 6605	MT-GLAZE	6.8K JA1/16W	1
R456	401 105 2805	MT-GLAZE	2.2K JA1/16W	1

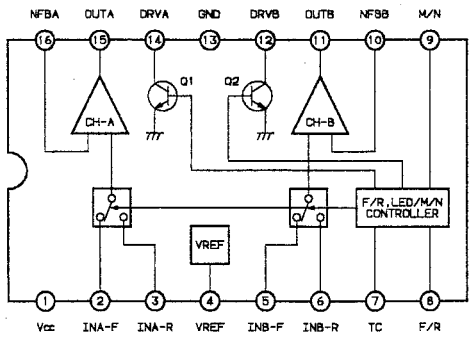
Ref. No.	Part No.	Description	Q'ty
ASSY,FPC,JACK			
22	620 208 1526	Assy,FPC,Jack	1
	620 208 0970	Spacer,PCB	1
J302	620 017 7733	EXT. Power Socket	1
S402	620 208 0901	Switch,Slide,1P-2T (MODE SW)	1
ASSY,FPC,SW			
23	620 208 1533	Assy,FPC,SW	1
S301	620 208 0925	Switch,Slide,2P-2T (DOLBY SW)	1
S302	620 208 0925	Switch,Slide,2P-2T (VOLUME SW)	1

NOTES:

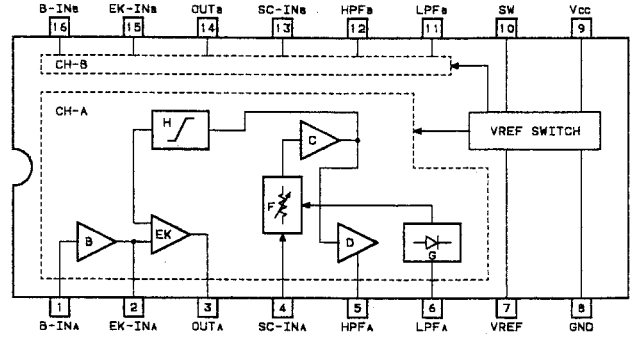
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

IC BLOCK DIAGRAM

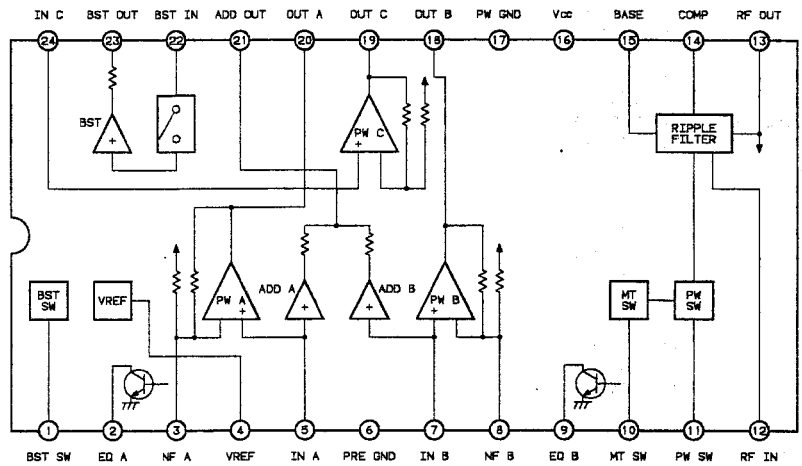
IC101 TA7795FN(ER) BLOCK DIAGRAM
(Pre Amplifier)



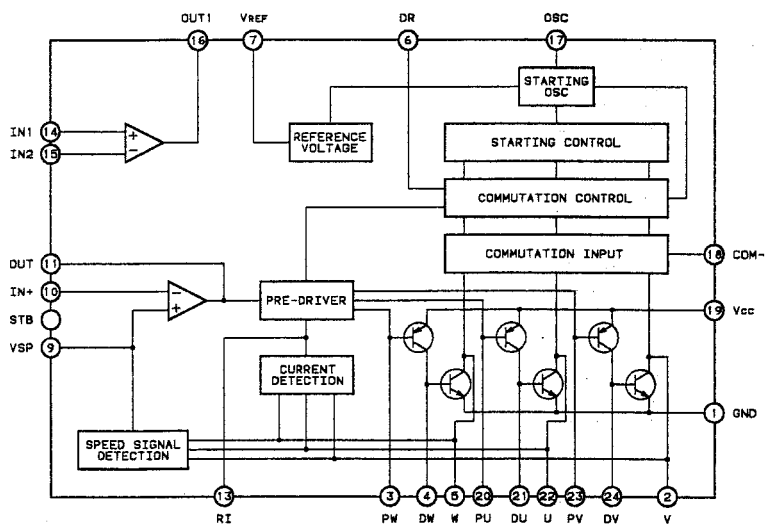
IC102 TA7793FN(ER) BLOCK DIAGRAM
(Dolby Noise/Reduction)



IC103 TA8157FN(ER) BLOCK DIAGRAM
(Power Amplifier)

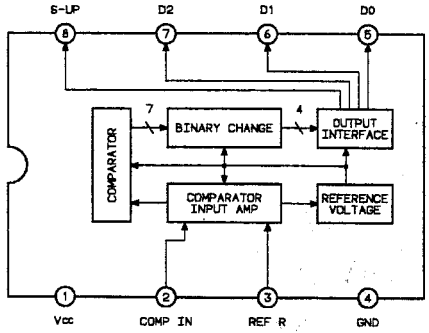


IC106 LB1673M-TP-T1 BLOCK DIAGRAM
(Motor Driver)

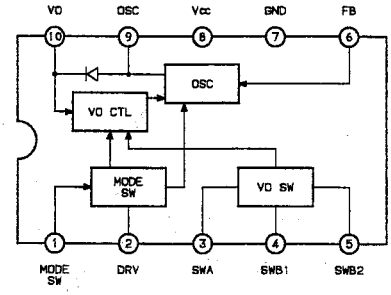


IC BLOCK DIAGRAM (Continued)

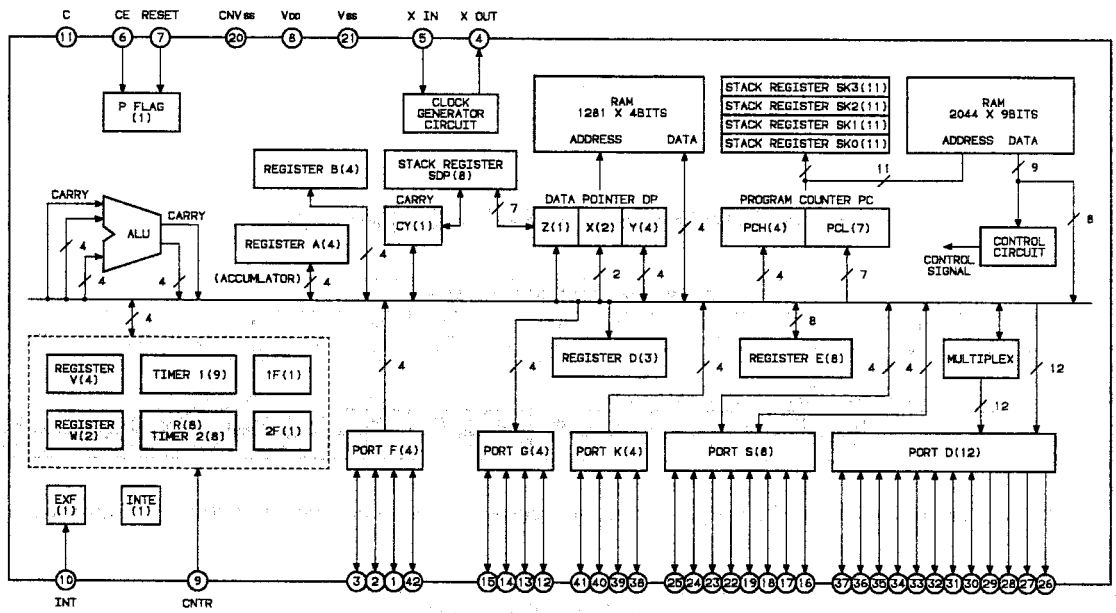
IC105 CXA1405AM-T3 BLOCK DIAGRAM
(Comparator)



IC107 TA8161F(ER) BLOCK DIAGRAM
(Mode Selector)



IC104 M34210M2-126GP BLOCK DIAGRAM
(System Control Micom)



CAUTION ON REPLACEMENT OF REEL

1. Remove the reel (No. 27) on the mechanism as shown below.
2. Widen the hole of the reel and keep it widened, remove the reel from the shaft, taking care not to force the shaft as shown in figure A.
3. Replace the removed old reel with a new one. Insert the new reel to meet the gear as shown in figure B.

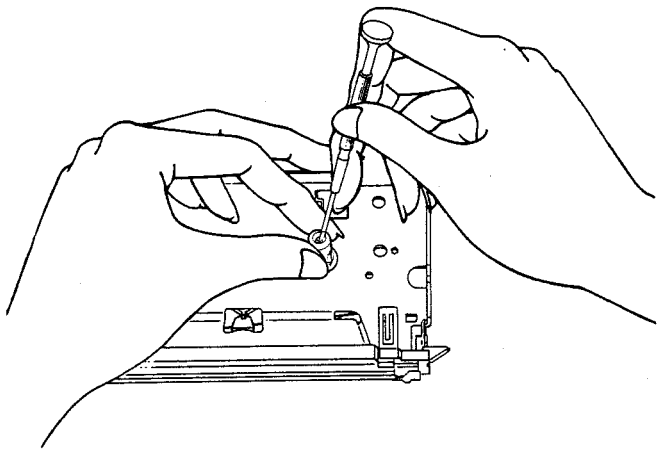


Fig. A

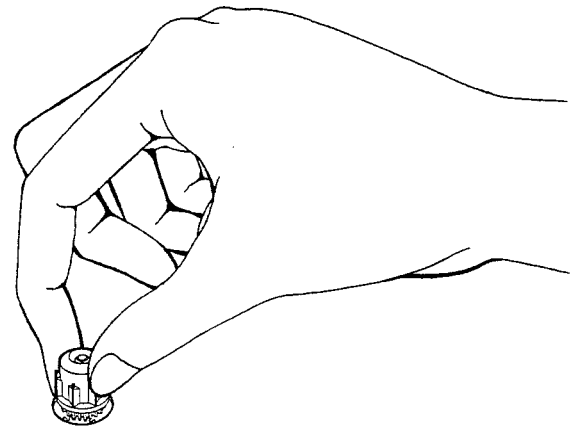


Fig. B

IC & TRANSISTOR DC VOLTAGES

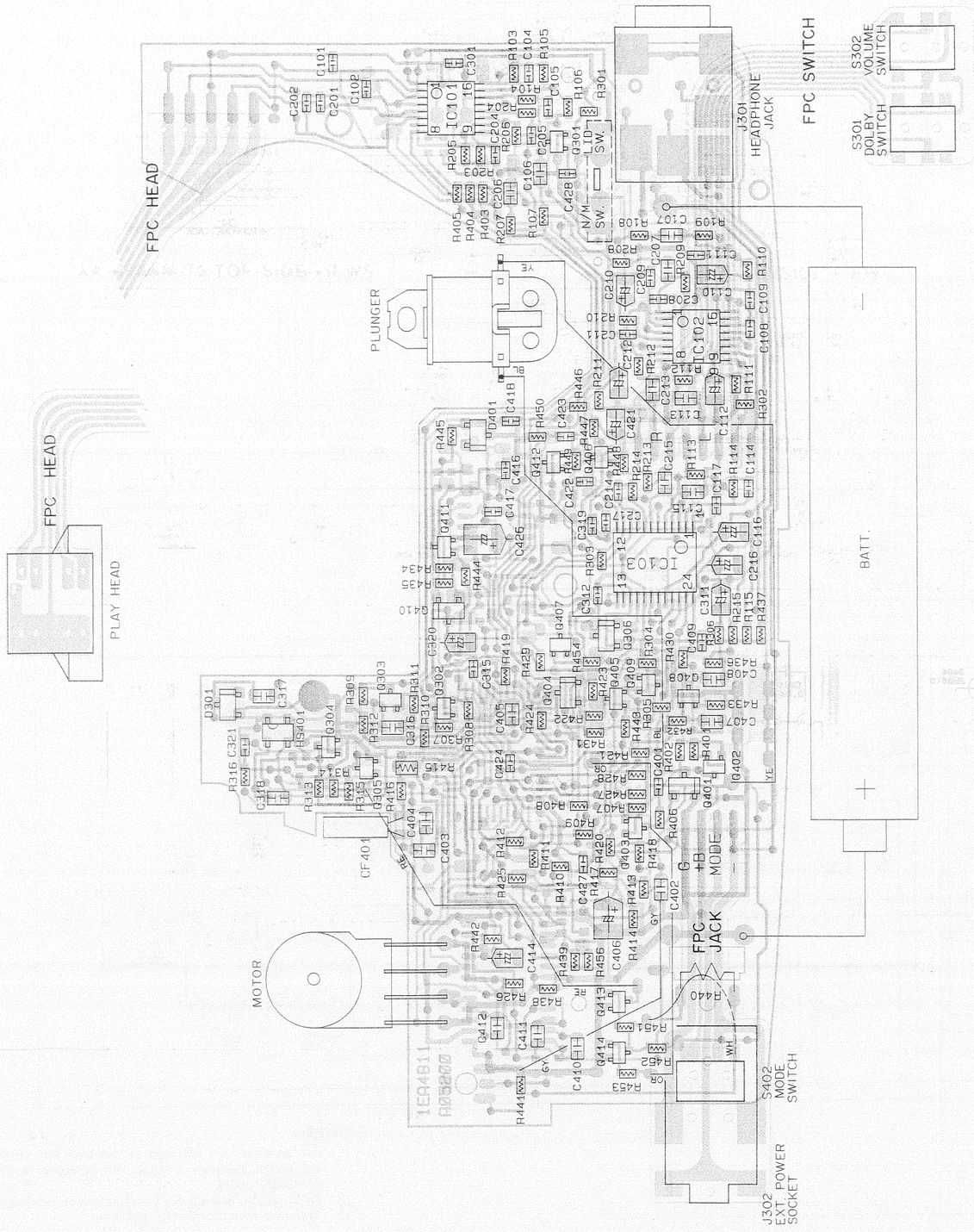
IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC101	TA7795FN	1.2V	0.9V	0.9V	0.9V	0.9V	0.9V	0V	0V	0.2V	0.9V	0.4V	0V	0V	0V	0V	0V	–	–	–	–
IC102	TA7793FN	0.7V	0.7V	0.7V	0.7V	0.7V	0V	0.7V	0V	1.2V	1.2V	0V	0V	0.7V	0.7V	0.7V	0.7V	–	–	–	–
IC103	TA8157FN	0V	0V	0.7V	0.7V	0.7V	0V	0V	0.7V	0V	0V	1.2V	1.2V	1.2V	0.6V	0.6V	1.3V	0V	0.6V	0.6V	0.6V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0.5V	0.7V	0.4V	0.7V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

The voltage of IC104, 105, 106, and 107 should be regarded as reference figures measured when the P.C.Board was removed from the unit.

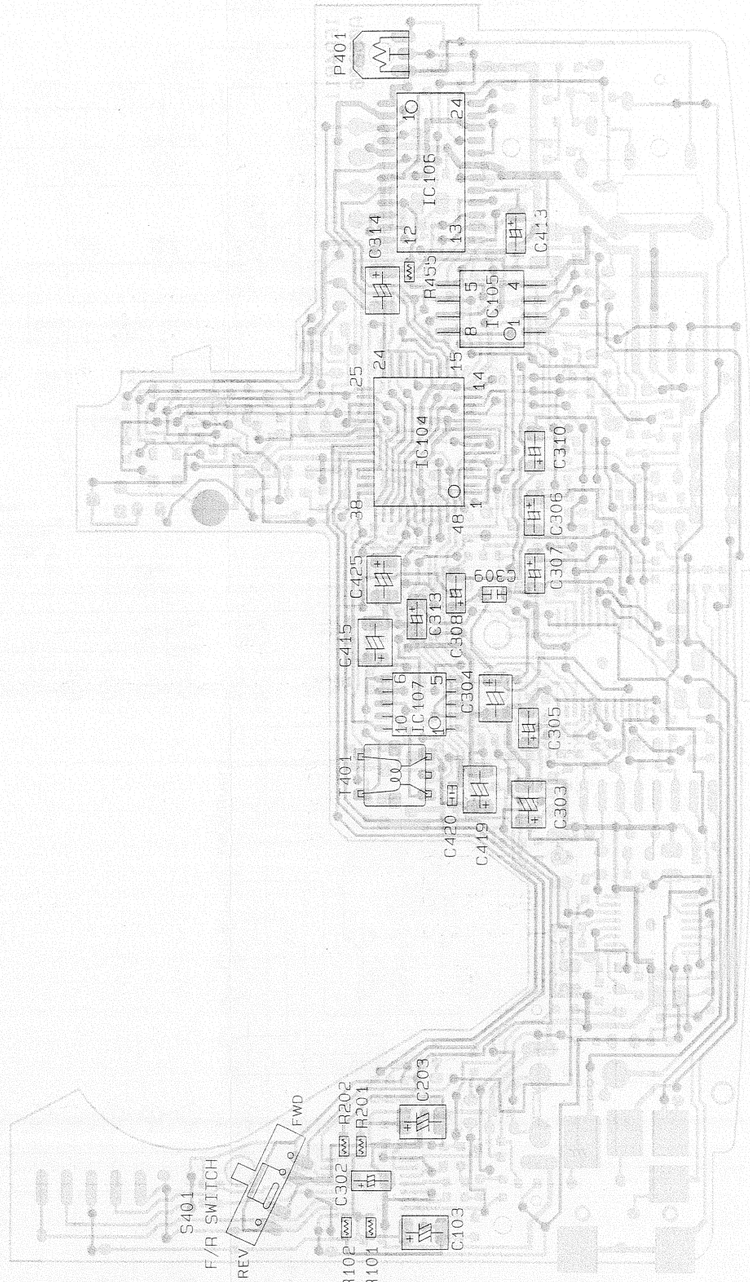
IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC104	M34210M2	0.1V	0.1V	2.2V	2.2V	2.2V	0V	1.0V	0V	0V	0V	0V	0V	0.1V	0V	0.9V	1.0V	0.1V	0V	0V	0V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	0V	0.2V	0V	0.9V	0V	0V	0V	0V	0V	1.9V	0V	0V	0V	0V	0V	0V	2.2V	2.2V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		2.2V	0V	2.2V	0V	0V	2.2V	0.9V	0.7V	–	–	–	–	–	–	–	–	–	–	–	–
IC105	CXA1405AM	1.5V	0.2V	0V	0V	2.2V	2.2V	2.2V	2.2V	–	–	–	–	–	–	–	–	–	–	–	–
IC106	LB1673M	0V	0V	1.5V	0.1V	0V	1.0V	0.5V	0.9V	0.1V	0.1V	0.6V	0V	0.5V	0.3V	0.3V	1.1V	0V	1.4V	1.5V	−0.2V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	1.5V	0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC107	TA8161F	1.5V	0V	0V	0V	0V	0.2V	0V	1.5V	1.5V	2.2V	–	–	–	–	–	–	–	–	–	–

TRANSISTOR DC VOLTAGES														
Ref. No.	**DEVICE**	**B**	**C**	**E**	**Ref. No.**	**DEVICE**	**B**	**C**	**E**	**Ref. No.**	**DEVICE**	**B**	**C**	**E**
Q301	DTC114	0V	0.5V	0V	Q402	2SA1576	1.2V	1.2V	1.2V	Q409	DTC114	0V	0V	0V
Q302	2SC4081	0.6V	0V	0V	Q403	2SA1576	1.2V	0V	1.2V	Q410	2SB815	0.6V	1.2V	1.2V
Q303	2SC4081	0.5V	1.2V	0V	Q404	2SB815	1.6V	2.3V	2.3V	Q411	2SC4081	0.6V	0V	0V
Q304	2SC4081	0.4V	0V	0V	Q405	2SC4081	0V	0.1V	0V	Q412	2SC4081	0V	2.3V	0V
Q305	2SC4081	0.5V	0V	0V	Q406	2SA1576	2.3V	0V	2.3V	Q413	2SC4081	0V	0.1V	0V
Q306	2SB815	0.6V	1.1V	1.2V	Q407	2SC4081	0V	1.0V	0V	Q414	2SC4081	0V	0V	0V
Q401	2SD1048	0V	1.2V	0V	Q408	2SC4081	0.6V	1.1V	0V					

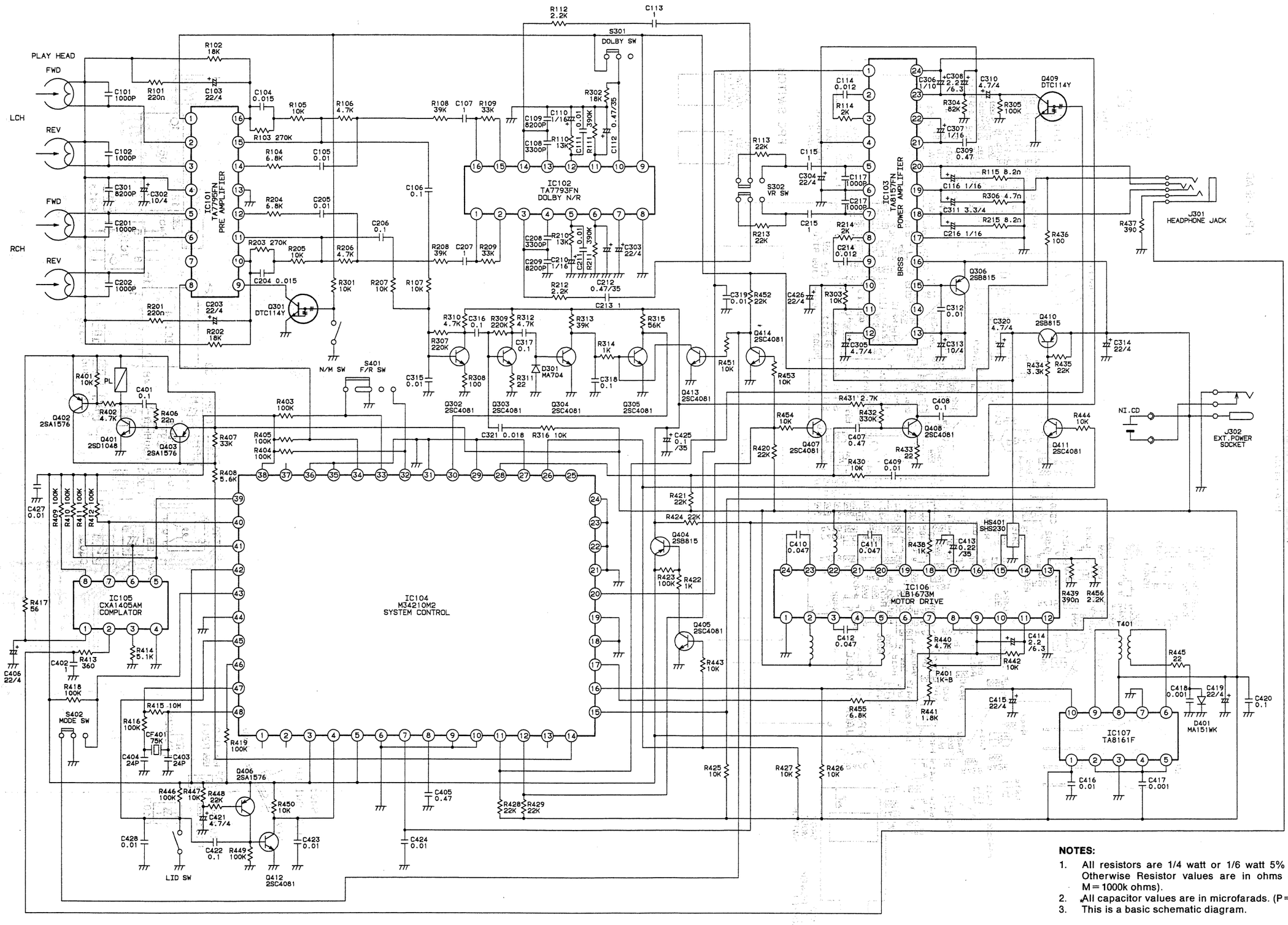
AMPLIFIER P.C.BOARD (Foil Side View)



AMPLIFIER P.C.BOARD (Parts Side View)



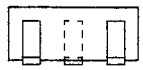
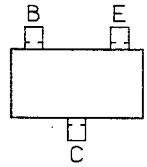
SCHEMATIC DIAGRAM



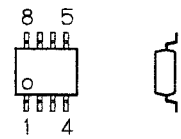
NOTES:

1. All resistors are 1/4 watt or 1/6 watt 5% unless marked. Otherwise Resistor values are in ohms (K = 1000 ohms, M = 1000k ohms).
2. All capacitor values are in microfarads. (P = picofarads).
3. This is a basic schematic diagram.

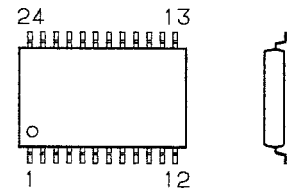
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
DTC114 2SA1576 2SB815 2SC4081 2SD1048		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

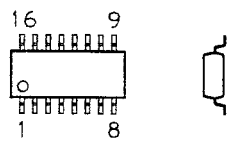
CXA1405AM-T3 TOP/SIDE VIEWS



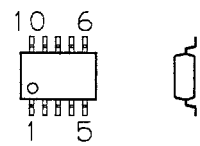
TA8157FN(ER) TOP/SIDE VIEWS



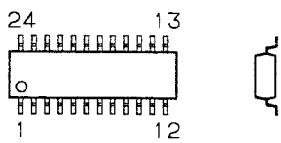
TA7793FN(ER) TOP/SIDE VIEWS
TA7795FN(ER) TOP/SIDE VIEWS



TA8161F(ER) TOP/SIDE VIEWS



LB1673M-TP-T1 TOP/SIDE VIEWS



M34210M2-126GP TOP/SIDE VIEWS